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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,214	02/25/2002	Brian Dennis McKean	SJO920010056US1 (0549)	5101
62627 7590 04/26/2007 DAVID W. LYNCH CHAMBLISS, BAHNER & STOPHEL 1000 TALLAN SQUARE-S TWO UNION SQUARE CHATTANOOGA, TN 37402			EXAMINER TANG, KENNETH	
			ART UNIT 2195	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/26/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/084,214

Applicant(s)

MCKEAN ET AL.

Examiner

Kenneth Tang

Art Unit

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. Applicant's arguments are in response to the Amendment filed on 11/21/06. Applicant's arguments have been fully considered but are moot in view of the new grounds of rejections.
2. Claims 1-42 are presented for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 12, 23, 34, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belsan et al. (hereinafter Belsan) (US 5,410,667) in view of Johnson et al. (hereinafter Johnson) (US 2003/0236919 A1).**

4. As to claim 1, Belsan teaches a mass storage controller system, comprising:
a plurality of controllers for controlling an array of storage devices, each of the plurality of controllers (Fig. 1, items 11-12, 100) comprising:
a CPU for controlling the operation of a controller (Fig. 1, item 11, 12);
program memory, coupled to the CPU, for storing program instructions and variables for the operation of the CPU; and
cache memory, coupled to the CPU, for storing information related to the array of storage devices (Fig. 1, item 113, 103-I);

wherein a controller of the plurality of controllers initiates a task to be performed, the controller initiating the task establishes a task coordination data object shared by the plurality of controllers, wherein the task coordination data object represents discrete partitions of task instructions and states for each partition of task instructions to allow the plurality of controllers to cooperate in the execution of the task, and wherein a free controller of the plurality of controllers selects a partition of task instructions of the task available for processing as indicated by the states for each partition of task instructions (col. 17, lines 31-42, col. 18, lines 34-62, etc.).

5. Belsan is silent in having task coordination done independently. However, Johnson teaches processor modules performing independent tasks to a memory subsystem. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Belsan's memory subsystem to allow for independent task execution as taught in Johnson's memory subsystem because this advantageously allows custom selection of particular processor-types based on the particular tasks each is to perform and improves the speed or efficiency of performance, as shown in Johnson ([0043]).

6. As to claims 12, 23, 34, and 42, they are rejected for the same reasons as stated in the rejection of claim 1.

7. **Claims 2-8, 10-11, 13-19, 21-22, 24-30, 32-33, and 35-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belsan et al. (hereinafter Belsan) (US 5,410,667) in view**

of Johnson et al. (hereinafter Johnson) (US 2003/0236919 A1), and further in view of Moriyama et al. (hereinafter Moriyama) (US 6,466,991 B1).

8. As to claim 2, Moriyama teaches a processor/controller that uses data objects that are discretely partitioned into various states of tasks such as a ready state, a state of execution (IN PROGRESS) state, an end (COMPLETE) state, etc. (*col. 9, lines 45-67 through col. 10, lines 1-14*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of the above states because it would improve control and communication of the data system (*col. 1, lines 10-16 and 56-65*).

9. As to claim 3, Moriyama teaches wherein a controller selects a partition by examining the partitions in a READY state and selecting at least one partition in the READY state to operate on (*col. 9, lines 45-67 through col. 10, lines 1-14*).

10. As to claim 4, Moriyama teaches wherein a partition is in an IN PROGRESS state during processing (*col. 9, lines 45-67 through col. 10, lines 1-14*).

11. As to claim 5, Moriyama teaches wherein a controller sets the partition selected for processing to a COMPLETE state upon completion of processing for a partition (*col. 9, lines 45-67 through col. 10, lines 1-14*).

Art Unit: 2195

12. As to claims 6-8 and 10, they are rejected for the same reasons as stated in the rejections of claims 2-5.

13. As to claim 11, Moriyama teaches wherein the task coordination data object includes information about an operation to be performed and a data set to be operated on (*col. 9, lines 45-67 through col. 10, lines 1-14*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the task coordination data object includes information about an operation to be performed and a data set to be operated on because it would improve control and communication of the data system (*col. 1, lines 10-16 and 56-65*).

14. As to claims 13-19 and 21-22, these limitations are taught in Moriyama as shown in the rejections of claims 2-8 and 10-11.

15. As to claims 24-30 and 32-33, these limitations are taught in Moriyama as shown in the rejections of claims 2-8 and 10-11.

16. As to claims 35-41, they are rejected for the same reasons as stated in the rejections of claims 2-6 and 10-11.

17. **Claims 9, 20, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belsan et al. (hereinafter Belsan) (US 5,410,667) in view of Johnson et al. (hereinafter**

Art Unit: 2195

Johnson) (US 2003/0236919 A1), and further in view of Stuttard et al. (hereinafter Stuttard) (US 2002/0174318 A1).

18. As to claims 9, 20, and 31, Belsan and Johnson fail to explicitly teach wherein the states provide a semaphore-mechanism for allowing a controller to ascertain whether to acquire control over a partition. However, Stuttard teaches using a semaphore controller for a data processing apparatus (*page 7, [0140]-0142*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the references of Studdard with Belsan and Johnson because this would allow for synchronization of threads and to increase the control of accesses to resources (*page 7, [0140]-0142*).

Response to Arguments

19. Applicant's arguments have been fully considered but are moot in view of the new grounds of rejections.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (571) 272-3772. The examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

Art Unit: 2195

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kt

12/8/06


MENG-AI AN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100